STATE OF THE WATERSHED REPORT
PIT RIVER SUB-WATERSHED

Watershed Description

The Pit River watershed extends from the headwaters of the Pit River in the Warner Mountains east of Alturas through portions of Modoc, Lassen, and Shasta Counties to Shasta Lake. The watershed includes all of the tributaries to the Pit River, including the Fall River. The Pit River has been extensively modified by PG&E for hydroelectric power generation. Point source discharges are limited to lumber mills, and treated domestic wastes from Alturas, Bieber, Adin, and Burney. Nonpoint source discharges associated with agriculture, livestock grazing, timber harvest, and hydrologic modification have had a much more significant impact on Pit River water quality and beneficial uses than point sources.

For purposes of this discussion, the Goose Lake watershed basin will be included with the Pit River; however, this basin is actually a separate hydrologic unit. Past land management practices and extended drought conditions in the 1980s and early 90s caused deterioration of water quantity, quality and aquatic habitat leading to the severe decline of the Goose Lake Redband Trout and other native fish species. Though protection/restoration efforts are underway, some streams are still impacted by degraded aquatic habitat, low summer flows, high temperature and channel erosion and incisement.

Water Quality Assessment

Previous monitoring surveys have documented water quality problems including high nutrients and nuisance algae conditions, low dissolved oxygen, high turbidity/suspended sediment and high water temperature. These water quality parameters, and aquatic habitat conditions in the Pit River are influenced by a variety of factors that detract from overall watershed quality. These include some natural factors such as low summer flows, turbidity from fine suspended sediments (volcanic clays) and thermal/chemical contributions from mineralized hot springs. Nonpoint source discharges associated with land management practices include livestock grazing, forestry and agricultural practices, in addition to flow modifications from irrigation and hydroelectric diversions. Previous channel straightening projects have contributed to channel incisement which drains meadows and causes constrained channel reaches in narrow, straight courses where their increased erosive energy caused bank erosion, down cutting and downstream sedimentation.

The Pit River is on the Clean Water Act Section 303(d) list (water bodies where objectives are not being met even after application of Best Available Treatment/ Best Control Technology) because of nutrient enrichment, low dissolved oxygen and high temperature.

The Fall River enters the Pit River near the town of Fall River Mills. The Fall River is a unique spring fed river system that flows approximately 14 miles in total length and supports an exceptional wild trout fishery. In recent years it was observed that upper Fall River was being adversely impacted by sediment deposition that had degraded aquatic vegetation, macroinvertebrates and the wild trout fishery. The source of this sediment load is believed to be from a variety of past land management practices and excessive channel erosion, principally in the Bear Cr. watershed which is the only major tributary to Fall River. Fall River has been included on the 303(d) list because of the sedimentation problem.

Numerous other tributaries to the Pit River have some reaches that are impacted by degraded aquatic habitat conditions, excessive channel erosion and incisement, and increased temperature and sediment loading. These conditions are caused by a variety of land management practices, including livestock grazing, road construction, logging, and channel modifications.

Current Assessment and Strategy to Address Problems

Existing water quality and aquatic habitat conditions in the Pit River watershed have evolved over many years of traditional land management practices. One of the difficult tasks will be to determine what level of improvement could be or should be achieved. Staff's priorities for the next fiscal year are to (1) continue to provide technical support to the Central Modoc and Fall River Resource Conservation Districts (RCDs); (2) assist the Central Modoc and Fall River RCDs in applying for grants; (3) attend the RCDs' meetings to discuss Regional Board concerns and possible solutions; and (4) compile a report on existing monitoring programs in the Pit River Watershed, recommend appropriate modifications, and start watershed scale monitoring efforts.

In an effort to initiate improvement in watershed conditions, the Regional Board staff has assisted in the establishment of the Upper Pit River Watershed Enhancement and Protection Project (UPRWEPP). Experience in other watershed efforts has shown the wisdom in starting at the top and working downstream in a watershed enhancement effort. The specific activities and objectives are as follows:

1. Compile inter-agency database referencing existing, watershed-related reports, defining existing monitoring programs and identifying additional monitoring needs.

2. Begin implementation of enhancement efforts such as bank stabilization, fisheries improvement (such as establishing shade and augmenting spawning gravels), and developing and implementing resource management plans for private landowners.

3. Integrate watershed studies, and restoration efforts into the local community education programs. Utilize enhancement projects (such as planting riparian vegetation and improving spawning gravels).

4. Sponsor demonstration projects and a holistic watershed management approach for local ranchers, in order to encourage practices that will enhance and protect the watershed.

The Regional Board will continue its support of the UPRWEPP and efforts to enhance Pit River water quality/aquatic habitat conditions. Specifically, staff's activities will include assistance to UPRWEPP in acquiring grants; program administration; attendance at watershed meetings; and additional water quality monitoring and assessment work to further study existing problems, to evaluate success of improvement projects and to document long term trends in watershed conditions.

Budget

In the Pit River watershed there are few problems with discharges from NPDES facilities, underground and above ground tanks, industrial facilities, Chapter 15 sites, Non-Chapter 15 sites, etc. Less than 1% of the Regional budget allocated to work on these types of problems is allocated to this watershed. Water quality efforts focus on nonpoint source problems. Nonpoint source efforts in the watershed are supported by resources from the nonpoint source program (Task 436), basin planning (Task 401) and forest activities (Task 172). The staff resources allocated to this watershed are as follows.

Personal Services Task	Funding Source	PYs
1. Continue support of the UPRWEPP, the Pit River RCD and Fall River RCD in their efforts to enhance water quality/aquatic habitat conditions	401 436	0.05 0.05
2. Continue routine forest practice review activities	172, 176 & 177	0.1
3. Expand water quality monitoring and assessment to better define conditions	unfunded	